

AMENDMENTS TO THE CLAIMS

1-28. (Canceled)

29. (Currently Amended) A terminal apparatus for sending and receiving data to and from a router that is connected to an external network to which a server apparatus is connected, said terminal apparatus being connected to the router via a home network and the router holding a corresponding relationship between a global address assigned to the router and a local address of said terminal apparatus for a predetermined period of time, said terminal apparatus comprising:

a communication unit operable to send and receive data to and from the server apparatus via the router during a polling interval; and

an adjustment unit operable to detect a holding period during which the corresponding relationship is held in the router, and to set a period shorter than the holding period as a sending interval at which the data is sent;

wherein said communication unit is operable to send the data repeatedly to the router according to the sending interval, and

said adjustment unit is operable to detect a longest response interval as the holding period in the router out of a plurality of response data sent by the server apparatus in response to the plurality of data sent by said terminal apparatus; and the corresponding relationship between the global address and the local address is always maintained as long as the terminal apparatus sends data packets to the router at the polling interval shorter than the holding period.

30. (Previously Presented) The terminal apparatus according to Claim 29, wherein:

a mobile terminal device sends a control request to said terminal apparatus; and
said communication unit is operable to receive the control request via the router.

31. (Previously Presented) The terminal apparatus according to Claim 30, further comprising:

a control unit operable to control said terminal apparatus according to the control request.

32. **(Previously Presented)** The terminal apparatus according to Claim 30, wherein:
a plurality of apparatuses are connected to said terminal apparatus via the home network;
each apparatus of the plurality of apparatuses includes an apparatus control unit operable to control the apparatus itself;
said communication unit is operable to send the control request to each apparatus ; and
the apparatus control unit of each apparatus is operable to control the respective terminal apparatus according to the received control request.
33. **(Previously Presented)** The terminal apparatus according to Claim 29, further comprising:
a generation unit operable to generate data to be sent to the server apparatus;
wherein said generation unit is operable to generate the data that includes at least the following information in a header part: the local address of said terminal apparatus as a sender's address; a local port number of said terminal apparatus as a sender's port number; an address of the server apparatus as a destination address; and a port number of the server apparatus as a destination port number, and to generate the data that includes at least the following information in a data part: a unique terminal ID of said terminal apparatus.
34. **(Previously Presented)** The terminal apparatus according to Claim 33, wherein:
a mobile terminal device sends a control request to said terminal apparatus; and
said communication unit is operable to receive the control request via the router.
35. **(Previously Presented)** The terminal apparatus according to Claim 34, further comprising:
a control unit operable to control said terminal apparatus according to the control request.
36. **(Previously Presented)** The terminal apparatus according to Claim 34, wherein:
a plurality of apparatuses are connected to said terminal apparatus via the home network;

each apparatus of the plurality of apparatuses includes an apparatus control unit operable to control the apparatus itself;

said communication unit is operable to send the control request to each apparatus ; and
the apparatus control unit of each apparatus is operable to control the respective terminal apparatus according to the received control request.

37. **(Previously Presented)** The terminal apparatus according to Claim 29, further comprising:

a generation unit operable to generate data to be sent to the server apparatus;
wherein said generation unit is operable to generate the data that includes at least the following information in a header part: the local address of said terminal apparatus as a sender's address; a local port number of said terminal apparatus as a sender's port number; an address of the server apparatus as a destination address; and a port number of the server apparatus as a destination port number, and to generate the data that includes at least the following information in a data part: a response interval at which response data is sent as a response from the server apparatus.

38. **(Previously Presented)** The terminal apparatus according to Claim 37,
wherein said adjustment unit is operable to adjust the sending interval to become shortened when said communication unit has not received the response data from the router within the sending interval.

39. **(Previously Presented)** The terminal apparatus according to Claim 37, wherein:
said generation unit is operable to generate a plurality of data with different response intervals;
said communication unit is operable to send the plurality of data generated by said generation unit; and

said adjustment unit is operable to detect the holding period during which the corresponding relationship is held in the router from the response interval at which the response data is sent.

40. **(Canceled)**

41. **(Previously Presented)** The terminal apparatus according to Claim 37, wherein the server apparatus includes:

a second communication unit operable to send and receive the data;

a response interval adjustment unit operable to obtain the response interval at which the response data is sent to said terminal apparatus, the response interval being included in the data, and to determine a response period during which the response data should be sent; and

a second generation unit operable to generate the response data to be sent to said terminal apparatus;

wherein said second communication unit is operable to send, to the router, the response data generated by said second generation unit according to the response period.

42. **(Currently Amended)** A communication method for use with a terminal apparatus for sending and receiving data to and from a router that is connected to an external network to which a server apparatus is connected, the terminal apparatus being connected to the router via a network and the router holding a corresponding relationship between a global address assigned to the router and a local address of the terminal apparatus for a predetermined period of time, said communication method comprising:

sending and receiving data to and from the server apparatus via the router during a polling interval; and

detecting a holding period during which the corresponding relationship is held in the router, and setting a period shorter than the holding period as a sending interval at which the data is sent;

wherein in said sending and receiving of the data, the data is sent repeatedly to the router according to the sending interval, and

a longest response interval is detected as the holding period in the router out of a plurality of response data sent by the server apparatus in response to the plurality of data sent; and the corresponding relationship between the global address and the local address is always maintained as long as the terminal apparatus sends data packets to the router at the polling interval shorter than the holding period.

43. **(Previously Presented)** The communication method according to Claim 42, further comprising:

generating data to be sent to the server apparatus;

wherein in said generating, the generated data includes at least the following information in a header part: the local address of the terminal apparatus as a sender's address; a local port number of the terminal apparatus as a sender's port number; an address of the server apparatus as a destination address; and a port number of the server apparatus as a destination port number, and the generated data includes at least the following information in a data part: a unique terminal ID of the terminal apparatus.

44. **(Previously Presented)** The communication method according to Claim 42, further comprising:

generating data to be sent to the server apparatus;

wherein in said generating, the generated data includes at least the following information in a header part: the local address of the terminal apparatus as a sender's address; a local port number of the terminal apparatus as a sender's port number; an address of the server apparatus as a destination address; and a port number of the server apparatus as a destination port number, and the generated data includes at least the following information in a data part: a response interval at which response data is sent as a response from the server apparatus.

45. **(Currently Amended)** A computer executable program stored on a computer-readable non-transitory storage medium for use with a terminal apparatus for sending and receiving data to and from a router that is connected to an external network to which a server apparatus is connected, the terminal apparatus being connected to the router via a network, and the router holding a corresponding relationship between a global address assigned to the router and a local address of the terminal apparatus for a predetermined period of time, said computer executable program causing the terminal apparatus to perform steps comprising:

sending and receiving of data to and from the server apparatus via the router during a polling interval; and

detecting a holding period during which the corresponding relationship is held in the router, and setting of a period shorter than the holding period as a sending interval at which the data is sent;

wherein in the sending and receiving of the data, the data is sent repeatedly to the router according to the sending interval, and

a longest response interval is detected as the holding period in the router out of a plurality of response data sent by the server apparatus in response to the plurality of data sent; and the corresponding relationship between the global address and the local address is always maintained as long as the terminal apparatus sends data packets to the router at the polling interval shorter than the holding period.

46. **(Previously Presented)** The program according to Claim 45, further comprising:

causing a generation of data to be sent to the server apparatus;

wherein in the generation of data, the generated data includes at least the following information in a header part: the local address of the terminal apparatus as a sender's address; a local port number of the terminal apparatus as a sender's port number; an address of the server apparatus as a destination address; and a port number of the server apparatus as a destination port number, and the generated data includes at least the following information in a data part: a unique terminal ID of the terminal apparatus.

47. **(Previously Presented)** The program according to Claim 45, further comprising:
program code operable to cause causing a generation of data to be sent to the server apparatus;

wherein in the generation of data, the generated data includes at least the following information in a header part: the local address of the terminal apparatus as a sender's address; a local port number of the terminal apparatus as a sender's port number; an address of the server apparatus as a destination address; and a port number of the server apparatus as a destination port number, and the generated data includes at least the following information in a data part: a response interval at which response data is sent as a response from the server apparatus.

48. **(Currently Amended)** A communication system comprising:

a server apparatus connected to an external network;

a terminal apparatus connected to a network; and

a router which connects the external network and the network;

wherein said router holds a corresponding relationship between a global address assigned to said router and a local address of said terminal apparatus for a predetermined period of time; and

said terminal apparatus comprises:

a communication unit operable to send and receive data to and from said server apparatus via said router during a polling interval; and

an adjustment unit operable to detect a holding period during which the corresponding relationship is held in said router, and to set a period shorter than the set period as a sending interval at which the data is sent;

wherein said communication unit is operable to send the data repeatedly to said router according to the sending interval, and

said adjustment unit is operable to detect a longest response interval as the holding period in the router out of a plurality of response data sent by the server apparatus in response to the plurality of data sent by said terminal apparatus; and the corresponding relationship between the

global address and the local address is always maintained as long as the terminal apparatus sends data packets to the router at the polling interval shorter than the holding period.

49. **(Previously Presented)** The communication system according to Claim 48, wherein:

said terminal apparatus further includes a generation unit operable to generate data to be sent to said server apparatus;

said generation unit is operable to generate the data to include at least the following information in a header part: the local address of said terminal apparatus as a sender's address; a local port number of said terminal apparatus as a sender's port number; an address of said server apparatus as a destination address; and a port number of said server apparatus as a destination port number, and the data is generated to include at least the following information in a data part: a unique terminal ID of said terminal apparatus; and

said server apparatus includes:

a second communication unit operable to receive the data that includes the terminal ID of said terminal apparatus;

a terminal information storage unit operable to store the following information as a set of terminal information: the terminal ID of said terminal apparatus; a global address of said router which is a sender's address; and a global port number of said router which is a sender's port number; and

a packet generation unit operable to obtain, from said terminal information storage unit, the global address and the global port number which correspond to the terminal ID when a control request to control said terminal apparatus with the terminal ID occurs.

50. **(Previously Presented)** The communication system according to Claim 48, wherein:

said terminal apparatus further includes a generation unit operable to generate data to be sent to said server apparatus;

said generation unit is operable to generate the data to include at least the following information in a header part: the local address of said terminal apparatus as a sender's address; a local port number of said terminal apparatus as a sender's port number; an address of said server

apparatus as a destination address; and a port number of said server apparatus as a destination port number, and the data is generated to include at least the following information in a data part: a response interval at which response data is sent as a response from said server apparatus.

51. **(Previously Presented)** The terminal apparatus according to Claim 29, wherein said terminal apparatus is a home terminal apparatus.
52. **(Previously Presented)** The terminal apparatus according to Claim 29, wherein said terminal apparatus is an internet terminal.
53. **(Previously Presented)** The terminal apparatus according to Claim 32, wherein said plurality of apparatuses are home appliances.